IN THE ABSTRACT:

Please add the abstract as follows:

The ordering of packet flows, comprising sequences of data packets, in a communication or computer system, is performed by assigning an exit number to each packet; queuing the packets in buffer means; and outputting the queued packets in a predetermined order according to an order list determined by the exit numbers assigned to each packet before it was queued. The exit number information is preferably assigned to packet records, which are queued in a separate buffer means to the packets, the records being of fixed length and shorter than the data portions. The packet record buffer means comprise groups of bins, each bin containing a range of exit numbers, the bins for higher exit number packet records having a larger range than bins for lower exit number packet records. Lower exit number packet records in a bin are subdivided into a plurality of bins, each containing packet records corresponding to a smaller range of exit numbers. Secondary bins may be created to temporarily store records assigned to a bin that is currently being emptied. The bins may be filled by means of a parallel processor, preferably a SIMD array processor.